

CLAIMS:

1. PWM generator having an input terminal for receiving an analog input signal and an output terminal for providing a pulse width modulated output signal, the PWM generator comprising:

5 a comparator circuit, having a first comparator input coupled to said input terminal, a second comparator input, and a comparator output coupled to said output terminal;

a feedback loop coupled between said output terminal and the second comparator input, the feedback loop comprising a feedback filter for generating a sloping feedback signal when a constant input signal is present at the input terminal.

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2. PWM generator according to claim 1, further comprising controllable switching means for connecting said output terminal either to a third supply voltage or to a fourth supply voltage, said controllable switching means being coupled to said output terminal and controlled by at least one control signal derived from an output signal of the comparator circuit.

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3. PWM generator according to claim 2, wherein said controllable switching means comprise:

20 - a first controllable switch having a first switch terminal connected to said output terminal, a second switch terminal connected to said third supply voltage, and a control terminal receiving a first control signal of the at least one control signal;

- a second controllable switch having a first switch terminal connected to said output terminal, a second switch terminal connected to said fourth supply voltage, and a control terminal receiving a second control signal of the at least one control signal;

25 wherein each controllable switch has a first operative state wherein the first and second switch terminals are connected to each other, and a second operative state wherein the first and second switch terminals are mutually isolated;

and wherein the first and second control signals are generated such that, depending a voltage level of the output signal of the comparator circuit, either the first controllable switch is in its

first operative state while the second controllable switch is in its second operative state, or the first controllable switch is in its second operative state while the second controllable switch is in its first operative state.

5 4. PWM generator according to claim 3, wherein said first input is a non-inverting input while said second input is an inverting input;
wherein said third supply voltage has a higher voltage level than said fourth supply voltage ;
and wherein the first and second control signals are generated such that the first controllable
10 switch is in its first operative state while the second controllable switch is in its second
operative state when the output is high, whereas the first controllable switch is in its second
operative state while the second controllable switch is in its first operative state when the
comparator circuit output is low.

15 5. PWM generator according to claim 3, wherein said first input is an inverting
input while said second input is a non-inverting input;
wherein said third supply voltage has a higher voltage level than said fourth supply voltage;
and wherein the control signals are generated such that the first controllable switch is in its
first operative state while the second controllable switch is in its second operative state when
the output is low, whereas the first controllable switch is in its second operative state while
20 the second controllable switch is in its first operative state when the comparator circuit output
is high.

25 6. PWM generator according to claim 3, wherein said switching means comprise
a controllable switch having a first switch terminal connected to said output terminal, a
second switch terminal connected to said third supply voltage, a third switch terminal
connected to said fourth supply voltage, and a control terminal receiving a common control
signal, being the at least one control signal;
the controllable switch having a first operative state wherein the first switch terminal
substantially assumes the voltage received at the second switch terminal and a second
30 operative state wherein the first switch terminal substantially assumes the voltage received at
the third switch terminal.

7. PWM generator according to claim 1, wherein said feedback filter comprises: a series circuit comprising an inductor, a capacitor and a resistor connected between the output terminal and a reference voltage.

5 8. PWM generator according to claim 7, wherein a loudspeaker system is connected in parallel to said capacitor.

9. An electronic apparatus comprising the PWM generator as claimed in claim 7; and connector via which a loudspeaker system is connectable in parallel to said capacitor.